

### **REMARKS**

In response to the Office Action of 04/21/2011, Applicants respectfully request reconsideration. Claims 1, 3, 6-10, 13-21, 24, 27, 31-32, 44, 46, 57, 59, 60, 71-77, and 79 were pending in this application. Each of claims 1, 20, 24, and 57 have been amended. Claim 80 has been added. As a result, claims 1, 3, 6-10, 13-21, 24, 27, 31-32, 44, 46, 57, 59, 60, 71-77, 79 and 80 are pending for examination with claims 1, 20, 24, 27, 44, and 57 being independent. No new matter has been added.

### **Rejections under 35 U.S.C. §103**

The Office Action rejects claims 1, 3, 6-10, 13-21, 24, 26, 27, 31-39, 44, 46, 57, 59, 60, and 71-77 under 35 U.S.C. §103(a) as purportedly being unpatentable over McCann et al. (U.S. Patent No. 5,740,037), Theimer et al. (U.S. Patent No. 5,555,376), Smyth (U.S. Patent No. 5,689,619), and Chai (U.S. Patent No. 6,615,197). Applicants respectfully traverses the rejection to the extent it is maintained over the claims as amended.

#### **I. Discussion of Chai**

Chai is understood to describe a system to make people more intelligent (Chai, col. 1, line 23). In particular, Chai discloses “a signaling system for the improvement of cognitive performance and intelligence” (Chai, Abstract).

To this end, Chai teaches that visual reinforcing pulses may be presented to a user in his peripheral field of vision (Chai, col. 11, lines 53-57). First, the pulses are presented to the user for a period of time while a previously recorded audio sequence, termed a Computerized Auditory Program, is played to the user. Next, the pulses are presented to the user for a second period of time while the user is performing a task. (Chai, col. 12, lines 13-30).

#### **II. Independent Claim 1**

Amended independent claim 1 recites:

determining context of the user, wherein the context of the user is represented by a plurality of context attributes that each model an aspect of the context;

automatically selecting, without user intervention, one of the plurality of predefined user interfaces, wherein the automatically selecting is a function of determined cognitive availability of the user and the user context and comprises determining a quantity of information the user has cognitive availability to receive and selecting a user interface including a quantity of information that is less than or equal to the quantity of information the user has cognitive availability to receive; and

presenting to the user information associated with the task by using the automatically selected predefined interface, wherein, *when the user is determined to have cognitive availability for information representing one type of feedback, presenting the automatically selected predefined user interface comprises presenting one visual indicator in peripheral vision of the user.* (Emphasis added).

McCann, Theimer, Smyth and Chai, either alone or in combination, fail to disclose or suggest at least the above-emphasized limitation of independent claim 1.

On page 8, the Office Action asserts that “Chai discloses that when the user is determined to have cognitive availability for information representing one type of feedback, presenting the selected predefined user interface comprises presenting one visual indicator in peripheral vision of the user.” Applicants disagree with this assertion. Though the cited lines of Chai teach flashing LEDs in the left and right peripheral field of vision, Chai nowhere discloses or suggests doing so **“when the user is determined to have cognitive availability for information representing one type of feedback,”** (emphasis added) as recited in claim 1. Chai teaches presenting flashing LEDs while a user is listening to a recorded audio sequence and, subsequently, while the user performing a cognitive task (Chai, col. 11, line 53 – col. 12, line 35). The flashing LEDs are presented in these two cases to improve the cognitive performance and intelligence of the user and, in each case, are presented **regardless** of any other factors, let alone on the basis of what the determined cognitive availability of the user may be. Thus, Chai fails to disclose or suggest “when the user is determined to have cognitive availability for information representing one type of feedback, presenting the automatically selected predefined user interface comprises presenting one visual indicator in peripheral vision of the user.”

McCann, Theimer, and Smyth do not cure this deficiency of Chai and the Office Action does not assert that they do. Thus, even if the cited references were combined, which the Applicants do not concede, the combination would not disclose or suggest the above-emphasized limitation of

claim 1. Accordingly, McCann, Theimer, and Smyth, either alone or in combination, fail to disclose or suggest the above-emphasized limitation of independent claim 1.

In response to claim 27, on page 14, the Office Action asserts that Smyth (col. 4, lines 41-61) “discloses an indication of a number of types of background feedback for which the user has available attention.” In order to expedite prosecution, Applicants would like to point out that even if this assertion were true, which Applicants do not concede for reasons provided below, it does not teach presenting one visual indicator in peripheral vision of the user based on such an indication. In any case, the Applicants disagree that Smyth discloses such an indication. The cited lines of Smyth describe providing display cues to a user when it is determined, based on the response time and eye movement of the user, that the user’s task loading is high. The level of task loading of a user is not necessarily an indication of a number of types of background feedback for which the user has available attention. For example, one user may be busy (high task loading), but may be able to receive one or two types of background feedback, whereas another user may be busy (high task loading), but may not have available attention to receive any background feedback.

For at least these reasons, claim 1 patentably distinguishes over the cited references. Claims 3, 6-10, 13-19, and 79-80 depend from claim 1 and patentably distinguish over the cited references for at least the same reasons. Accordingly, it is respectfully requested that the rejections of claims 1, 3, 6-10, 13-19, and 79-80 under 35 U.S.C. §103(a) be withdrawn.

### III. Independent Claim 20

Amended independent claim 20 recites “when the user is determined to have cognitive availability for information representing two types of feedback, presenting the selected predefined user interface comprises presenting one visual indicator in peripheral vision of the user and presenting an audible indicator.” As should be clear from the foregoing discussion of independent claim 1, McCann, Theimer, Smyth, and Chai, either alone or in combination, fail to disclose or suggest at least the above-quoted limitation of claim 20.

Further, independent claim 20 recites “dynamically determining cognitive availability of a user, the cognitive availability comprising a value indicative of expertise of the user.” The Office Action asserts, on page 20 that McCann (col. 2, lines 43-48) teaches “cognitive availability

comprising at least one of an expertise of a user, an ability to extend short term memory or distractions associated with the user.” Even, if this assertion were true, which Applicants do not concede, McCann fails to teach “the cognitive availability **comprising a value indicative of expertise** of the user,” (emphasis added) as recited in claim 20. The cited lines of McCann describe information provided by a graphical user interface to a soldier during a caution state and have nothing to do with the expertise of a soldier. Indeed, expert and non-expert soldiers may use the system disclosed in McCann. Thus, McCann fails to disclose or suggest “dynamically determining cognitive availability of a user, the cognitive availability comprising a value indicative of expertise of the user.” Theimer, Smyth, and Chai do not cure this deficiency of McCann and the Office Action does not assert that they do.

For at least these reasons, claim 20 patentably distinguishes over the cited references. Claims 21 and 71-75 depend from claim 20 and patentably distinguish over the cited references for at least the same reasons. Accordingly, it is respectfully requested that the rejections of claims 20-21 and 71-75 under 35 U.S.C. §103(a) be withdrawn.

#### IV. Independent Claim 24

Amended independent claim 24, recites “wherein, when the user is determined to have cognitive availability for information representing two types of feedback, presenting the selected predefined user interface comprises presenting one visual indicator in peripheral vision of the user and presenting an audible indicator.”

As should be clear from the foregoing discussion of independent claim 1, McCann, Theimer, Smyth, and Chai, either alone or in combination, fail to disclose or suggest at least the above-quoted limitation of claim 24. Thus, claim 24 patentably distinguishes over the cited references. Accordingly, it is respectfully requested that the rejections of claim 24 under 35 U.S.C. §103(a) be withdrawn.

#### V. Independent Claim 27

Claim 27 recites “generating a first user interface for presentation to the user by combining a

plurality of the user interface elements determined to be available for presentation on the computing device, the generated first user interface having user interface elements whose characterized properties correspond to the dynamically determined current needs and cognitive availability of the user, the determined cognitive availability being a first cognitive availability and being a cognitive availability for information representing one type of feedback” and “presenting the first user interface to the user, wherein presenting the first user interface consists essentially of presenting one visual indicator in peripheral vision of the user.” As should be clear from the foregoing discussion of independent claim 1, McCann, Theimer, Smyth, and Chai, either alone or in combination, fail to disclose or suggest at least the above-quoted limitations of claim 27.

Further, claim 27 recites “determining multiple user interface elements that are available for presentation on the computing device” and “generating a first user interface for presentation by a user by combining a plurality of the user interface elements determined to be available for presentation on the computing device.” McCann (col. 2, lines 33-34) describes an interface that provides a “soldier with information specifically tailored for the combat task at hand.” These interfaces are therefore understood to be *preconfigured*. Accordingly, McCann does not meet limitations of claim 27 for *generating by combining*. Theimer, Smyth, and Chai do not cure this deficiency of McCann and the Office Action does not assert that they do.

For at least these reasons, claim 27 patentably distinguishes over the cited references. Claims 31, 32, and 76-77 depend from claim 27 and patentably distinguish over the cited references for at least the same reasons. Accordingly, it is respectfully requested that the rejections of claims 27, 31, 32, and 76-77 under 35 U.S.C. §103(a) be withdrawn.

#### VI. Independent Claim 44

Amended independent claim 44, recites “wherein, when the at least one value representative of cognitive availability of the user indicates cognitive availability for information representing one type of feedback, presenting the selected predefined user interface comprises presenting one visual indicator in peripheral vision of the user.

As should be clear from the foregoing discussion of independent claim 1, McCann, Theimer, Smyth and Chai, either alone or in combination, fail to disclose or suggest at least the above-quoted

limitation of claim 44. Thus, claim 44 patentably distinguishes over the cited references. Claim 46 depends from claim 44 and patentably distinguishes over the cited references for at least the same reasons. Accordingly, it is respectfully requested that the rejections of claim 44 under 35 U.S.C. §103(a) be withdrawn.

#### VII. Independent Claim 57

Amended independent claim 57 recites “presenting the determined user interface to the user, wherein, when the user is determined to have cognitive availability for information representing two types of feedback, presenting the determined user interface comprises presenting one visual indicator in peripheral vision of the user and presenting an audible indicator.” As should be clear from the foregoing discussion of independent claim 1, McCann, Theimer, Smyth, and Chai, either alone or in combination, fail to disclose or suggest at least the above-quoted limitation of claim 57.

Further, claim 57 recites “dynamically determining a level of attention which the user can currently give to the user interface based in part on at least one of a value characterizing the user’s background awareness, a value characterizing the user’s task switched attention, and a value characterizing the user’s parallel attention.” On page 20, the Office Action asserts that McCann (col. 2, lines 32-45) teaches “dynamically determining a level of attention.” Even if this assertion were true, which Applicants do not concede, McCann fails to disclose or suggest determining the level of attention based in part on at least one of the three mentioned values characterizing user’s background awareness, task switched attention, and parallel attention, respectively. The cited lines of McCann describe a graphical user interface for presenting a slider with information and have nothing to do with the attention level of the soldier, let alone determining the attention level based on one or more values characterizing aspects of the soldier’s attention. Thus, McCann fails to disclose or suggest the above-quoted limitation of claim 57. Theimer, Smyth, and Chai do not cure this deficiency of McCann and the Office Action does not assert that they do.

For at least these reasons, claim 57 patentably distinguishes over the cited references. Claims 59 and 60 depend from claim 57 and patentably distinguish over the cited references for at least the same reasons. Accordingly, it is respectfully requested that the rejections of claims 57 and 59-60 under 35 U.S.C. §103(a) be withdrawn.

New Claim

By this amendment, claim 80 has been added. Support for the claim can be found throughout the Specification at least in paragraphs [0515]-[0574] and [0657]-[0671].

Claim 80 depends from claim 1 and patentably distinguishes over the cited references for at least the same reasons as claim 1.

General Comments on Dependent Claims

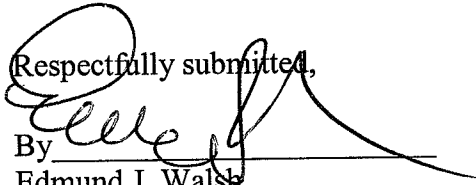
Each of the dependent claims depends from a base claim that is believed to be in condition for allowance, and Applicants believe that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. Applicants do not, however, necessarily concur with the interpretation of the dependent claims as set forth in the Office Action, nor do Applicants concur that the basis for the rejection of any of the dependent claims is proper. Therefore, Applicants reserve the right to specifically address the patentability of the dependent claims in the future, if deemed necessary.

**CONCLUSION**

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 23/2825 under Docket No. M1103.70778US00 from which the undersigned is authorized to draw.

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